(i) Each tank must be insulated with cork (at least 10 cm (4 inches) thick), or mineral wool, fiberglass or other suitable insulation material of sufficient thickness so that the thermal conductance at 16 °C (60 °F) is not more than 0.075 Btu per hour per square foot per degree F. temperature differential. Portable tanks made and in use prior to December 31, 1987 equipped with fusible plugs instead of a safety relief valve or frangible disc, must have sufficient insulation so that the tank as filled for shipment will not rupture in a fire. The insulation on portable tanks or cargo tank motor vehicles must be protected with a steel jacket at least 2.54 mm (0.100 inch) thick, or as required by the specification.

(j) Tank car tanks built after December 30, 1971 must be equipped with a thermometer well.

[Amdt. 173–224, 55 FR 52667, Dec. 21, 1990, as amended at 56 FR 66279, Dec. 20, 1991; Amdt. 173–236, 58 FR 50237, Sept. 24, 1993; Amdt. 173–234, 58 FR 51532, Oct. 1, 1993; Amdt. 173–145, 60 FR 49076, Sept. 21, 1995]

§ 173.334 Organic phosphates mixed with compressed gas.

Hexaethyl tetraphosphate, parathion, tetraethyl dithio pyrophosphate, tetraethyl pyrophosphate, or other Division 6.1 organic phosphates (including a compound or mixture), may be mixed with a non-flammable compressed gas. This mixture must not contain more than 20 percent by weight of organic phosphate and must be packaged in specification 3A240, 3AA240, 3B240, 4A240, 4B240, 4BA240, or 4BW240 cylinders meeting the following requirements.

(a) Each cylinder may be charged with not more than 5 kg (11.0 pounds) of the mixture, to a maximum filling density of not more than 80 percent of the water capacity;

(b) Each cylinder must be charged in compliance with § 173.301 (e) and (f);

(c) No cylinder may be equipped with an eduction tube or a fusible plug;

(d) No cylinder may be equipped with any valve unless the valve is a type approved by the Associate Administrator for Hazardous Materials Safety;

(e) Cylinders must be overpacked in a box so arranged to protect each valve or other closing device from damage. Except as provided in paragraph (f) of this section, no more than four cylinders may be packed in a box. Each box with its closing device protection must be sufficiently strong to protect all parts of each inside cylinder from deformation or breakage if the completed package is dropped 1.8 m (5.9 feet) onto solid concrete and impacted at the package's weakest point.

(f) Cylinders may be packed in strong wooden boxes with valves or other closing devices protected from injury, with not more than twelve cylinders in one outside wooden box. An outer fiberboard box may be used when not more than four such cylinders are to be shipped in one packaging. Valves must be adequately protected. Box and valve protection must be of strength sufficient to protect all parts of inner packagings and valves from deformation or breakage resulting from a drop of at least 1.8 m (5.9 feet) onto a concrete floor, impacting at the weakest point.

[Amdt. 173–224, 55 FR 52668, Dec. 21, 1990]

§ 173.335 Gas generator assemblies.

Gas generator assemblies (aircraft) containing liquefied non-flammable, non-toxic gas and a solid propellant cartridge must be packaged as follows:

(a) The gas must be packaged in specification steel cylinders authorized for any compressed gas except acetylene not exceeding 10.5 L (2.8 gallons) internal volume and having a minimum design burst pressure of 19,700 kPa (2,857 psi);

(b) Fittings must be protected against damage under conditions normal incident to transport, any trigger must be fitted with a safety locking pin, and a non-propulsive plug must be installed on the discharge tube; and

(c) Each complete unit must be individually and tightly packed to prevent movement in wooden boxes (4C1 or 4C2), plywood boxes (4D), reconstituted wood boxes (4F), fiberboard boxes (4G), or plastic boxes, (4H1and 4H2) of Packing Group II performance level, or in the original manufacturer's transit box.

[Amdt. 173–224, 55 FR 52669, Dec. 21, 1990]